

## REMARKS

By the *Office Action* of 31 July 2003, Paper No. 15, Claims 1-4, 9-10, 17-27 and 31-32 are pending in the Application, and all rejected. By the present *Response and Amendment*, the Applicant clarifies the invention, and in so doing, overcomes the rejection of the Claims in view of the cited art.

### 1. Statement of Common Ownership

An executed Statement of Common Ownership is attached hereto. The exhibits of the Statement were previously submitted with the unexecuted copy.

### 2. Claims 28-32

The original application was filed with Claims 1-16. In an 8 October 2002 *Response and Amendment*, Applicant amended Claims 1-2, 4 and 9-10, canceled Claims 5-8 and 11-16, and added new Claims 17-30.

In a 6 May 2003 *RCE*, Applicant mistakenly represented that the Claims only went up through Claim 27, and added what it thought were new Claims 28 and 29. As the Examiner points out, those new Claims 28 and 29 should actually be numbered Claims 31 and 32, as before the filing of the *RCE*, the Claims went up to Claim 30.

It is believed that Claims 28-30, currently objected to, should be reinstated as per this *Response and Amendment*, as those Claims were never canceled by Applicant, and that erroneously submitted "new" Claims 28 and 29 are rightfully Claims 31 and 32.

While Applicant can re-present objected to Claims 28-30 as, perhaps, new Claims 33-35, it appears most efficient to have Claims 28-30 remain Claims 28-30.

Thus, upon entrance of this *Response and Amendment*, it is believed the Claims pending are 1-4, 9-10 and 17-32.

### 3. General Observations

The present invention is a method and system for calibrating positions on the surface of a location sensing whiteboard to positions on a projected display. There are generally two steps involved in the calibration of a projected image and the whiteboard. The first step is, in essence, to tell the whiteboard that you are ready to begin the calibration process. The second step follows the first, and includes the actual calibration of the display.

As the Title of the application implies, the present invention is directed to the first step, the Initial Calibration Of A Location Sensing Whiteboard To A Projected Display.

Conventional calibration systems incorporate disadvantages, as noted in the present application:

One of the complications present in using electronic whiteboards is the calibration of the whiteboard. Calibration is necessary so that the computer can properly relate positions on the whiteboard to locations on the computer display device, and thus, properly interpret touch inputs detected on the surface of the electronic whiteboard. *Typically, calibrating the electronic whiteboard involves the user operating at the computer, rather than at the electronic whiteboard, to start a calibration. Then, after the user initiates the initial calibration at the computer, the user must perform a calibration of the electronic whiteboard.* This complicated procedure, usually calling for the assistance of another person, scares novice technology users away from electronic whiteboard technology, and overcomplicates the set-up process for those who do use electronic whiteboards. *Specification, Page 2, Lines 7-17 (emphases added).*

The present invention overcomes the disadvantages in the prior art by providing the location of the first step of the calibration process *distant* the computer (*that is, not requiring the user to begin the calibration process at the computer*). In the conventional process, the user touches the computer to begin the calibration process, then must move to the whiteboard to run the calibration and begin the presentation.

The improved process of the present invention enables one to begin the initiation of the calibration process without being directly at the computer to start the process, so the presentation is not broken up by the user moving between the computer and the whiteboard. In preferred embodiments, the user can begin the calibration process at the whiteboard via interaction with the whiteboard surface or through a voice command.

The physical surface of the electronic whiteboard **100** includes a menu bar **106**, which in the exemplary embodiment, includes a calibration button which is the predefined location for beginning the calibration sequence once touch is detected. However, those skilled in the art will appreciate that the predefined location may be not only a logical calibration button on a menu bar **106**, but any predefined location or command which may be programmed to begin the calibration sequence, such as an actual physical button located on the frame of the whiteboard, on the whiteboard surface, or remotely from the whiteboard frame or surface. Alternatively, the calibration sequence may also be initiated by a detected voice command. *Specification, Page 4, Lines 22-30.*

This improvement to the calibration process of the present invention eliminates the need for two assistants, one to start the calibration at the computer, and another to then run the calibration at the whiteboard. The present invention enables just one user to remain in proximity of the whiteboard to initiate and run the calibration. As disclosed:

... the present invention is [a] “one-touch” initial calibration process and system for a location sensing electronic whiteboard. The calibration method and system of the present invention overcomes the complications posed by the prior art by providing an easy and simple way to calibrate an electronic whiteboard. *A mechanism on the electronic whiteboard signals the computer to begin the calibration procedure before the computer has projected a GUI (graphical user interface) onto the electronic whiteboard surface. Specification, Page 2, Lines 23-29 (emphases added).*

In view of the above, some of the pending Claims have been further clarified to recite improvements to the conventional calibration process, which conventional process comprises:

- providing a location sensing device;
- providing an electronic device;
- initiating the calibration *at the electronic device*, and
- performing the calibration of positions between the location sensing device and the electronic device.

The present invention provides an improvement that the step of initiating the calibration be *at a location distant the electronic device*, preferably being at the whiteboard itself, or in proximity to the whiteboard via a button or device capable of receiving voice commands.

For example, Claim 1 has been amended to confine the first step of the conventional calibration process (initiating the process) to an initiation that is distant the electronic device (the computer), wherein the detection of a touch *upon the location sensing device* (whiteboard) initiates the calibration process. That the initiation of the calibration process is not begun at the computer respectfully places this Claim, and all pending Claims, in form for allowance.

#### **4. US Patent No. 6,337,681 to Martin**

‘681 to Martin was filed 16 June 2000, a date subsequent to the priority date accorded the present application. ‘681 to Martin is a continuation of US Patent No. 5,448,263 to Martin, and thus Applicant assumes the subject matter of ‘681 to Martin is consistent with the ‘263 disclosure. The below arguments assume the subject matter relied upon by the Examiner in his rejections over the ‘681 Patent is afforded an effective reference date prior to the effective filing date of the present application.

In essence, Martin discloses a projection display system incorporating a whiteboard. The system can be interconnected (networked) and supported by a voice conferencing system. The system includes a calibration procedure. Further, the Martin system can include buttons.

Martin discloses a general calibration process. Although largely silent on how to initiate the process, Martin discloses beginning the calibration process at the computer, not unlike prior art systems.

The present Claims are directed to a specific *method of calibrating*, preferably, a whiteboard with a computer. All the Claims specifically recite that calibration is initiated *distant the computer*, preferably at the whiteboard itself. Martin provides no teaching on this point. It is submitted that Martin neither anticipates, teaches, nor suggests the present invention, and the generalities the Examiner attributes to Martin's disclosure fall far short of providing anticipation rejection arguments.

## **5. Claim Rejections**

Claims 1-4, 9-10, 17-27 and 31-32 are rejected under 35 U.S.C. § 102(e) as being anticipated by Martin. Applicant respectfully traverses these grounds of rejection.

### **i. Claims 1-4**

As to Claims 1-4, these Claims as amended are not anticipated by Martin. Claim 1 now recites:

1. A method of calibrating positions between a location sensing device and an electronic device in communication with a display device, comprising the steps of:

detecting a touch on the surface of the location sensing device;

initiating the calibration of positions between the location sensing device and the electronic device upon the detection of the touch on the surface of the location sensing device; and

calculating a relationship between the location of the touch on the surface of the location sensing device and a position on the display device.

Claim 1 now specifically recites that the initiation of the calibration occurs in response to a touch on the location sensing device, *not* the electronic device. Martin discloses a general calibration procedure for its system, but nowhere teaches or suggests how such calibration procedure is *initiated*. The present invention is not a general calibration method, over which

Martin could be cited. The present invention is a specific initiation methodology that is neither taught nor suggested by Martin.

The Examiner suggests that **Fig. 12** of Martin discloses this step, but neither the **Fig.**, nor the accompanying text, discuss how to initiate the calibration of the Martin system. That is not surprising, as prior to the present invention, it was assumed that the calibration of the whiteboard with its computer simply began with an interaction at *the computer*. It is Applicant's novel initiation step of calibration, that being at the whiteboard itself, which comprises the present invention.

**Fig. 12** of Martin shows a step **1000** (untitled), that triggers a step **1001** (display first calibration screen). If step **1000** is the initiation step of calibration, it is silent to how the procedure begins. **Fig. 12** is described at *Col. 7, line 63 – Col. 8, line 18*. Other than saying “[o]n entry (1000), a first alignment image is presented ...”, there is simply no disclosure on how the calibration procedure begins.

It goes without saying that every calibration method must begin somehow (by activation of something) and somewhere (the activation must occur at a location). To cite Martin for the general proposition that it discloses initiating a calibration procedure, and then to use such disclosure as anticipating prior art for a Claim drawn specifically to “initiating the calibration procedure distant the computer”, is error.

Martin does not disclose, among other novel and non-obvious inventions:

- Initiating a calibration process distant the computer;
- Initiating a calibration process at the whiteboard;
- Initiating a calibration process by pushing a button at the whiteboard;
- Initiating a calibration process by voice command.

**Fig. 13a** of Martin illustrates a projected image on the whiteboard that shows a sequence in the calibration routine, where on the board is projected options to proceed with the calibration. But **Fig. 13a** illustrates a step in the procedure *after* initiation of the calibration procedure, and thus irrelevant against the present Claims.

Claims 1-4 specifically recite that the *initiation* of calibration begins at *the location sensing device*, and Martin does not anticipate that claimed step. Claims 2-4 are even further distinguishable from Martin, as these Claims recite that the initiation specifically incorporates the step of detecting actuation of a *physical button* located at the location sensing device, or a

**projected button** (icon) on the surface. While Martin discloses a system that may include a button (no specifics on what the button is for), this disclosure in no way can anticipate the step of initiating the calibration with a activation of a button. The Examiner points to the following disclosure as providing anticipation for the present invention's "calibration button":

The touch-sensitive screen interrupt service routine is invoked whenever any event occurs relating to the screen 1. This includes touching the screen, picking up a pen, pressing a button, or any other operation performed by the screen 1 or its interface 3. *Col. 11, Lines 60-65.*

This discloses only that the Martin system has an interrupt service routine that could be activated by a push of a button. This is unrelated to the present invention. Claims 2-4 do not recite that the present system has a button, but specifically recite that the present invention has, in essence, **a calibration button**. Such a calibration button is not found in Martin. Again, this is not surprising, as Martin is basically silent on how to initiate the calibration procedure, and thus silent on whether the initiation step is begun with the activation of a button. Not only is **Fig. 12** and the text of Martin silent on such a "calibration button", but **Fig. 13a** sheds no light on such. **Fig. 13a** appears to show a projected image, but not of an initiation step for calibration, but a projected image of a calibration step after the procedure has begun.

**ii. Claims 9-10**

Claims 9-10 are not anticipated by Martin, as Martin does not disclose at least the following recitation of these two Claims:

***a calibration initiation means distant the electronic device***

The Examiner suggests that this recitation is disclosed in **Fig. 12** of Martin. *Office Action*, page 3. Applicant reiterates its arguments above, and respectfully shows that **Fig. 12** is silent on **where** the calibration initiation means is located. Yet, where the calibration initiation means is located (distant the electronic device), is a novel and non-obvious part of Claims 9-10.

**Fig. 12** simply shows an empty dialogue box **1000**. This provides not a clue on where in the Martin system calibration is begun, and, if anything, supports the Applicant's position that Martin is like the other prior art systems, where calibration is initiated at the computer, not the whiteboard as per the present invention.

**iii. Claims 17-27**

Claims 17-27 are not anticipated by Martin, as Martin does not disclose the following recitation of these Claims:

***an improvement wherein the step (iii) of initiating the calibration comprises initiating the calibration at a location distant the electronic device***

The Examiner suggests that this recitation is disclosed in **Fig. 12** of Martin. As discussed above, it is submitted that Martin is silent on where the initiation occurs, or, if anything, discloses that such an initiation step occurs at the computer, not the whiteboard.

Claim 27 is further distinguishable from Martin, as it recites that the step of initiating the calibration at a location distant the electronic device comprises ***initiating the calibration with a voice command***. Martin makes no reference at all to such a step.

The Examiner points to disclosure in Martin that describes that the Martin system may include several user locations that may be connected via a *voice conferencing system*, (*Office Action*, page 5), and then holds that this disclosure of Martin anticipates the presently claimed “step of initiating the calibration ...with a voice command”. This could not be more unrelated to the claimed invention.

That Martin supports voice conferencing has no bearing on the presently claimed recitation that a voice command begins the calibration procedure of the present invention. Applicant respectfully requests reconsideration of this ground of rejection.

**iv. Claims 28-30**

Claims 28-30 are resubmitted for the Examiner’s review, as the *Office Action* suggests the Examiner has not addressed these Claims due to the error in presenting supposedly new Claims 28-29 (renumbered by the Examiner as 31-32). It is believed these Claims are, too, allowable over Martin for the above reasons.

**v. Claims 31-32**

Claims 31-32 (previously and erroneously presented as “new” Claims 28-29) are also believed allowable over Martin as each recites that the initiation of the calibration procedure occurs at the whiteboard, as opposed to the computer, a location of initiation not disclosed in Martin.

**6. Fees**

This *Response and Amendment* is being filed within six months of the *Office Action*, and more specifically within four months, thus, a one month extension fee is believed due, and a check for this amount is enclosed.

This *Response and Amendment* has the same number of Claims as filed in the RCE. Thus, no Claim fees are believed due.

Should any further fees be due, authorization to charge deposit account No. 20-1507 is hereby expressly given.



### CONCLUSION

By the present *Response and Amendment*, the Application has been in placed in full condition for allowance. Accordingly, Applicant respectfully requests early and favorable action. Should the Examiner have any further questions or reservations, the Examiner is invited to telephone the undersigned Attorney at 404.885.2773.

I hereby certify that this correspondence is deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on this date: 6 November 2003

Pamela J. Gvthard +

Name of Applicant Assignee, or  
Registered Representative

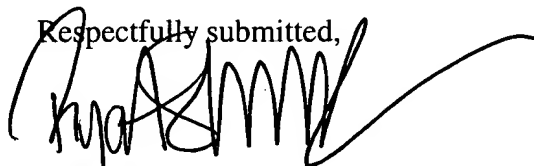
Pamela J. Gvthard

Signature

06 November 2003

Date

Respectfully submitted,



Ryan Schneider

Registration No. 45,083

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re application of: SMITH et al.	)	Confirmation Number: 1016
	)	
Serial No.: 09/746,754	)	Group Art Unit: 2863
	)	
Filed: 21 December 2000	)	Examiner: BHAT, Aditya S.
	)	
For: <b>INITIAL CALIBRATION OF A</b>	)	
<b>LOCATION SENSING WHITE-</b>	)	
<b>BOARD TO A PROJECTED</b>	)	
<b>DISPLAY</b>	)	

**STATEMENT OF COMMON OWNERSHIP**

Honorable Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Atlanta, GA 30308-2216  
4 November 2003

Sir:

1. PolyVision Corporation having an address of 4888 S. Old Peachtree Road, Norcross, Georgia 30071, is the common owner of the entire interest in the above-referenced patent application number 09/746,754 filed on 21 December 2000, claiming benefit of priority to USSN 60/172,029 filed on 23 December 1999.

2. The above-referenced U.S. patent application number 09/746,754 was assigned to PolyVision Corporation on 27 March 2001. The assignment by all the named inventors was recorded with the USPTO on 2 April 2001, at reel and frame number 011656/0898 and is attached hereto as Exhibit A.

3. At the time the invention described in the above-referenced application was made, all of the listed inventors were employees of MicroTouch Systems, Inc. and were under an obligation to assign the invention to MicroTouch Systems, Inc.

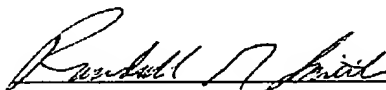
4. The inventors of U.S. Pat. No. 5,790,114 assigned their entire interest in the '114 patent to MicroTouch Systems, Inc. on 22 January 1997, in an assignment recorded with the USPTO at reel and frame number 83494/0982 and is attached hereto as Exhibit B.

5. MicroTouch Systems, Inc., assigned U.S. Pat. No. 5,790,114 to Greensteel, Inc. on 27 June 2000, in an assignment recorded with the USPTO at reel and frame number 010984/0829 and is attached hereto as Exhibit C.

6. Greensteel, Inc. is a wholly-owned subsidiary of PolyVision Corporation. See page 3 of Exhibit D attached hereto.

7. MicroTouch Systems, Inc. through its duly authorized representative hereby states that the invention described in application 09/746,754 and U.S. Pat. No. 5,790,114 were commonly owned or under an obligation of assignment to MicroTouch Systems, Inc. at the time the invention disclosed in U.S. patent application number 09/746,754 was made.

4 November 2003



MicroTouch Systems, Inc.

Randall G. Smith, General Manager,  
MicroTouch Business Products Division